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Call Sign E19031 Grant Date 5/9/2019
(or other identifier) Term Dates
From 5/15/2019 To: 5/14/2020
Approved: Paul E. Davis
for a 60 day period.

Applicant: SpaceX Services, Inc.
IBFS File Number: SES-STA-20190410-00514
Call Sign(s): E190131

Pursuant to the attached Basis of Grant, SpaceX Services, Inc. (SpaceX) is granted special temporary authority for 60 days from the date of satellite launch to operate its four Cobham, Model MK3 series, 1 meter fixed antenna earth station in Redmond, WA with the SpaceX S2983 NGSO satellites to communicate with the SpaceX NGSO satellites and conduct in-orbit testing during the orbit-raising phase operating from insertion at approximately 440 km up to 550 km NGSO orbit, inclined to 53° inclination, to test the communications payload on each of the up to 75 satellites in the 10.7-12.7 GHz (space-to-Earth) and 14.0-14.5 GHz (Earth-to-space) frequency bands under the following conditions.

1. Operations are limited to:

Antenna Id	Frequency Bands (MHz)	T/R Mode	Polarization (H,V,L,R)	Emission Designator	Maximum EIRP per Carrier (dBW)	Maximum ERP Density per Carrier (dBW/4kHz)
HA-1	10700 12700	R	Right Hand Circular	240MD7W	0.0	0.0
Modulation and Services BPSK up to 64QAM; Digital Data						
HA-1-1	14000 14500	T	Right Hand Circular	240MD7W	50.43	-33.37
Modulation and Services BPSK up to 64QAM; Digital Data						

- All operations under this grant of special temporary authority must be on an unprotected and non-harmful interference basis, *i.e.*, SpaceX must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station.
- In the event of any harmful interference under this grant of special temporary authority, SpaceX must cease operations immediately upon notification of such interference and must inform the Commission, in writing, immediately of such an event.
- Operations authorized here must comport with the conditions imposed in DA 19-342.¹
- The term of this authorization commences on the date of launch of the up to 75 satellites covered by this grant. SpaceX must notify the Chief of the Satellite Division, in writing, of the date of launch and the commencement of this grant of special temporary authority.
- Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future SpaceX applications.
- Any action taken or expense incurred as a result of operations pursuant to this STA is solely at SpaceX's risk.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective immediately.

¹ *Space Exploration Holdings, LLC, Order and Authorization, DA 19-342 (IB rel. Apr. 26, 2019) (SpaceX Modification Order).*

Basis for Grant

On April 18, 2019, WorldVu Satellites Limited (OneWeb) submitted a letter opposing SpaceX's requests for special temporary authority (STA).² On April 23, 2019, SpaceX responded to OneWeb's letter.³ On April 25, 2019, EchoStar Satellite Operating Corporation and Hughes Network Systems, LLC (together with their affiliates, "EchoStar"), and Intelsat License LLC (Intelsat) submitted a written *ex parte* presentation in response to developments in the above-referenced proceedings concerning, *inter alia*, the SpaceX modification application and the gateway earth station and space station STA requests.⁴

OneWeb raises concerns that SpaceX fails to present "extraordinary circumstances" requiring temporary operations, as required by Section 309(f) of the Communications Act and Section 25.120(b) of the Commission's rules.⁵ In this instance, SpaceX seeks authority to operate its gateway earth stations for special operations (launch and early operations and testing) of a temporary nature (for brief period of time prior to commencement of commercial operations). Such operations have been granted through STAs routinely in the past for similar in-orbit testing (IOT) operations for geostationary satellites prior to commencing operations,⁶ and for LEOP operations for NGSO satellites.⁷ The ability to operate gateway earth stations to communicate with satellites during the orbit-raising phases, as requested in this application, is important to ensure proper functioning and to identify and correct any issues before satellites reach operational orbit. Accordingly, grant of the requested STAs for SpaceX's gateway earth stations to communicate with its authorized space stations serves the public interest.

OneWeb also argues that SpaceX is attempting to shortcut the Commission's review of SpaceX's modification application that was pending before the Commission at the time SpaceX filed its requests for earth station and space station special temporary authority.⁸ OneWeb further asserts that the requests for STA were incomplete as filed.⁹ As an initial matter, SpaceX's modification application was granted on

² Letter from Brian D. Weimer, Counsel to OneWeb, to Marlene H. Dortch, Secretary, FCC, dated April 18, 2019 (OneWeb Opposition).

³ See Letter from William M. Wiltshire, Counsel to SpaceX, to Marlene H. Dortch, Secretary, FCC, dated April 23, 2019.

⁴ See Letter from Jennifer A. Manner, Senior Vice President, Regulatory Affairs, EchoStar Satellite Operating Company and Hughes Network Systems, LLC; and Susan H. Crandall, Associate General Counsel, and Cynthia J. Grady, Senior Counsel, Intelsat US LLC, to Marlene H. Dortch, Secretary, FCC, dated April 23, 2019.

⁵ OneWeb Opposition at 1-2 (citing 47 U.S.C. § 309(f) and 47 CFR § 25.120(b)).

⁶ See, e.g., IBFS File Nos. SAT-STA-20170302-00032, SAT-STA-20170314-00050, SAT-STA-20170526-00080, SAT-STA-20170718-00105, SAT-STA-20170921-00135, SAT-STA-20180118-00007, SAT-STA-20171218-00173, SAT-STA-20180214-00016, & SAT-STA-20180905-00066. Certain temporary operations (except in-orbit testing) are already permitted by rule, without the need to seek further Commission authorization, for satellites authorized to operate in the geostationary orbit. 47 CFR § 25.282 ("A space station authorized to operate in the geostationary satellite orbit under the part is also authorized in connection with short-term, transitory maneuvers directly related to post-launch, orbit-raising maneuvers, provided [certain conditions are met].") There is no similar rule automatically authorizing the temporary operations of satellites authorized to operate in non-geostationary orbits.

⁷ The Satellite Division has previously granted special temporary authority for launch and early operation phase (LEOP) for NGSO space stations. See, e.g., IBFS File No. SAT-STA-20170726-00109 & SAT-STA-20180724-00055 (granting 180-day STAs to Terra Bella for LEOPs).

⁸ OneWeb Opposition at 3-4.

⁹ *Id.* at 5.

April 26, 2019,¹⁰ and thus the argument regarding shortcutting the review of then-pending modification application is moot. In addition, we find that SpaceX's requests for STA provide, as required by our rule governing STA requests, "the full particulars of the proposed operation including all facts sufficient to justify the temporary authority sought and the public interest therein."¹¹ The information provided in the STA requests, in conjunction with the information in its modification application that was incorporated by reference, is fully consistent with the information provided in other requests for STA in connection with LEOP and in-orbit testing operations.

Finally, EchoStar and Intelsat argue in their *ex parte* filing that the STA request made an insufficient showing to grant a waiver of a condition on SpaceX's previous license grant that required, prior to the launch of SpaceX's system, the International Telecommunication Union to issue a "favorable" or "qualified favorable" finding that SpaceX's proposed operations will meet equivalent isotropically radiated power (EIRP) limits. This issue was addressed by the International Bureau in the grant of SpaceX's modification application and is not a basis for denial of grant of SpaceX's requests for STA.¹²

¹⁰ *Space Exploration Holdings, LLC*, Order and Authorization, DA 19-342 (IB rel. Apr. 26, 2019) (*SpaceX Modification Order*).

¹¹ 47 CFR § 25.120(a).

¹² *SpaceX Modification Order* at para.28.